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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,956	03/05/2002	Nobukazu Kato	200380-9022	6319

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EXAMINER
MCCAMEY, ANN M

ART UNIT	PAPER NUMBER
2833	

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/090,956	KATO ET AL.	
	Examiner	Art Unit	
	Ann M McCamey	2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11, 13-15, 17, 19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Bassler et al. (US 6,280,209).

Regarding claim 1, Bassler et al. disclose a connector comprising a plurality of contact arrays parallel to one another, each of said contact arrays including two signal contacts 140, 141 adjacent to each other and a ground contact 150 aligned with said signal contacts, said ground contact in each contact array being disposed at a position corresponding to an intermediate position between two signal contacts adjacent to each other in a next contact array.

Regarding claim 2, Bassler et al. disclose said signal contacts in one contact array and said ground contacts in another contact array adjacent to the one contact array are arranged in a staggered fashion.

Regarding claim 3, Bassler et al. disclose in each contact array, said ground contact is arranged adjacent to said signal contact.

Regarding claim 4, Bassler et al. disclose each of said signal contacts has a signal terminal portion, each of said ground contacts having a ground terminal portion, said signal terminal portions and said ground terminal portions being arranged in a single common array.

Regarding claim 5, Bassler et al. disclose said ground terminal portion is arranged between adjacent ones of said signal terminal portions.

Regarding claim 6, Bassler et al. disclose (Fig. 9A) a connector comprising first and second contact arrays A, B parallel to each other and a third contact array between said first and said second contact arrays, each of said first and said second contact arrays including a plurality of signal contacts TPA+, TPA-, TPB+, TPB-, said third contact array including a plurality of ground contacts TPA(G), TPB (G), each of said ground contacts being disposed at a position corresponding to an intermediate position between every adjacent ones of said signal contacts in each of said first and said second contact arrays.

Regarding claim 7, Bassler et al. disclose said ground contacts and said signal contacts in each of said first and said second contact arrays are arranged in a staggered fashion.

Regarding claim 8, Bassler et al. disclose said first, said second, and said third contact arrays are arranged in a single common plane.

Regarding claim 9, Bassler et al. disclose each of said signal contacts has a signal terminal portion, each of said ground contacts having a ground terminal portion, said signal terminal portions being arranged in a single common array.

Regarding claim 10, Bassler et al. disclose said ground terminal portion is arranged between adjacent ones of said signal terminal portions.

Regarding claim 11, Bassler et al. disclose a connector for high-speed differential signal transmission, said connector comprising:

plurality of + signal contacts TPA+, TPB+;

plurality of - signal contacts TPA-, TPB-; and

plurality of ground contacts TPA(G), TPB(G), said contacts being arranged in a manner such that a set of each single one of said + signal contacts, each single one of said - signal contacts, and each single one of said ground contacts are located at three apexes of an isosceles triangle, respectively.

Regarding claim 13, Bassler et al. disclose said connector being for use in high-speed differential signal transmission according to the TMDS standard.

Regarding claim 14, Bassler et al. disclose said + signal contacts, said - signal contacts, and said ground contacts are arranged at a predetermined pitch, a plurality of transmission cables being arranged utilizing spaces faced to said ground contacts, each of said transmission cables being connected to one of said + signal contact and said - signal contact.

Regarding claim 15, Bassler et al. disclose said transmission cable is one of a twisted shield cable and a coaxial cable (Column 1, Lines 25-39).

Regarding claim 17, Bassler et al. disclose said ground contact is arranged between said + signal contact and said - signal contact.

Regarding claim 19, Bassler et al. disclose said transmission cable is said twisted shield cable, said connector comprising an upper-array ground plate and a lower-array ground plate each of which is connected to a shield portion of said twisted shield cable, each of said upper-array and said lower-array ground plates having lead portions to be contacted with or soldered to said ground contacts, said upper-array and said lower-array ground plates being faced to each other, said lead portions being alternately arranged and connected to said ground contacts located at the apexes of said isosceles triangles.

Regarding claim 20, Bassler et al. disclose said shield portion of said twisted shield cable is surrounded by said ground plate on left, right, and lower sides and by said shield plate on an upper side.

Claims 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Sasaki et al. (EP 0 486 298 A1).

Regarding claim 11, Sasaki et al. disclose a connector for high-speed differential signal transmission, said connector comprising:

plurality of + signal contacts 5;

plurality of - signal contacts 5; and

plurality of ground contacts 6, said contacts being arranged in a manner such that a set of each single one of said + signal contacts, each single one of said - signal

contacts, and each single one of said ground contacts are located at three apexes of an isosceles triangle, respectively.

Regarding claim 12, Sasaki et al. disclose a plurality of said isosceles triangles being defined, bottom sides of said isosceles triangles being alternately arranged in a staggered fashion.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bassler et al.

Bassler et al. disclose the invention substantially as claimed, but do not explicitly disclose a printed circuit board to mate with the contacts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a PCB, since it is well known in the art that these types of connectors are used with PCBs.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al.

Sasaki et al. disclose the invention substantially as claimed, but do not explicitly disclose a printed circuit board to mate with the contacts. It would have been obvious to

one having ordinary skill in the art at the time the invention was made to include a PCB, since it is well known in the art that these types of connectors are used with PCBs.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brunker et al. (US 5,876,248) and Rothenberger (US 5,895,276) teach ground and signal pins in a triangular configuration.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann M McCamey whose telephone number is (703) 305-3422. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (703) 308-2319. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

AMM
April 18, 2003

THO D. TA
PRIMARY EXAMINER